

**IN THE UNITED STATES DESIGNATED/ELECTED OFFICE****107 567748**

International Application No. : PCT/EP2004/007779  
International Filing Date : 14 July 2004 (14.07.2004)  
Priority Date(s) Claimed : 11 August 2003 (11.08.2003)  
Applicant(s) (DO/EO/US) : Katrin KOEHLER, et al.

Title: IMMOBILISABLE N-HETEROCYCLIC CARBENES

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §§ 1.56, 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This information disclosure statement is made in accordance with 37 C.F.R. §§ 1.56, 1.97 and 1.98 as follows:

**Timing and Fees**

☒ Under 37 C.F.R. § 1.97(b), no fee or statement is required for filing this information disclosure statement is filed:

☐ within three months of the filing date of a national application other than a CPA under § 1.53(d);

☒ within three months of the actual filing date of the national phase of a PCT application; OR

☐ before the mailing of a first substantive office action (including after filing of an RCE).

☐ Under 37 C.F.R. § 1.97(c), this information disclosure statement is filed after the periods specified in 37 C.F.R. § 1.97(b), but before the mailing date of:

a final rejection under 37 C.F.R. 1.113;  
termination of prosecution, e.g. Ex Parte Quayle, M.P.E.P § 609(B)(2); OR  
a notice of allowance under 37 C.F.R. § 1.311; and

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is accompanied by:

- ☐ the statement as specified in 37 C.F.R. § 1.97(e) set out below; OR
- ☐ a check covering the fee of \$180.00 under 37 C.F.R. § 1.17(p).
- ☐ Under 37 C.F.R. § 1.97(d), this information disclosure statement is filed after the mailing date of the following actions which have not been withdrawn:
- ☐ a final action under 37 C.F.R. § 1.113;
- ☐ termination of prosecution, e.g. Ex Parte Quayle, M.P.E.P § 609(B)(2);
- ☐ OR a notice of allowance under 37 C.F.R. § 1.311;

AND is filed on or before payment of the issue fee; AND is accompanied by:

the statement as specified in 37 C.F.R. § 1.97(e) as set forth below, and the fee of \$180.00 under 37 C.F.R. § 1.17(p).

Statements Under 37 C.F.R. 1.97(e)

- ☐ Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application having a mailing date not more than three months prior to the filing date of this information disclosure statement; or
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and to the knowledge of the undersigned attorney after making reasonable inquiry, no item of information contained in this information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing date of the information disclosure statement.

Cited Materials

- ☐ Copies of materials listed but not attached were cited in benefit (35 U.S.C. § 120) ancestor application Serial No. \_\_\_\_\_, on Form 892 by the Examiner and/or Form 1449 by the applicant; see 37 C.F.R. § 1.98(d).
- ☒ Copies of materials listed but not attached were cited in an international search report dated November 24, 2004.
- ☐ Not required by 37 CFR § 1.98.
- ☐ Copies of the materials listed are attached (except for the foregoing).

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Non-English Language References

☐ An English-language search report or equivalent paper from a foreign patent office is provided indicating the relevance of the cited reference(s).

☒ A foreign-language search report from a foreign patent office is provided, and pertinent parts are translated substantively below:

X = document of particular relevance when it is taken alone

Y = document of particular relevance when it is combined with another such document

A = document defining the general state of the art

O = non-written disclosure

P = intercalated document

T = document cited to understand the theory or principle underlying the invention

E = patent document which has the benefit of a date earlier than the filing date and which was published only on or after this filing date

D = cited in the application

L = cited for another reason

& = publication of member of same patent family

☒ Translation of other relevant information on foreign search report

In the search report, "Seite" means page, "Seiten" means pages, "Verbindungen der Formel" means Figure of formula, "Beispiele" means examples, and "das ganze Dokument" means the entire document, "Spalte" means column, "Zeile" means line, "Abbildungen" means claims, "Anspruch" means example, "Zusammenfassung" means summary, and "Tabelle" means table, and "Tabellen" means tables "in der Anmeldung erwaehnt" means cited in the application, "Schema" means scheme, "und" means and, "Absatz" means break, "Abbildung" means figure.


Other InformationPayment of Fees Due (If Any):

☐ A check for \$\_\_\_\_\_ covering the fee identified above is attached.

☐ Please charge to Deposit Account No. 13-3402 \$\_\_\_\_\_ for the fee identified above.

☒ The Commissioner is hereby authorized to charge or credit any overpayment to Deposit Account #13-3402, two copies of this paper are attached for this purpose. **10/567748**

Respectfully submitted,

  
Anthony J. Zelano, Reg. No. 27,969  
Attorney/Agent for Applicants

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Attorney Docket No.: MERCK-3131

Date: February 10, 2006

AJZ:ssr

IAP5 Rec'd PCT/PTO 10 FEB 2006

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number USNP of PCT/EP2004/007779  
Filing Date 14 July 2004 (14.07.2004)  
First Named Inventor Katrin KOEHLER, et al.  
Group Art Unit unknown  
Examiner Name unknown  
Attorney Docket Number MERCK-3131

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### U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code <sup>2</sup> (if known)		
	001	2003/083454	A1	MARKO, ET AL.	05-01-2003
	002	2003/0186803	A1	EARLE, ET AL.	10-02-2003
	003	6,025,496		HERRMANN, ET AL.	02-15-2000

### FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	004	WO	98/27064	A	GOERLICH, ET AL.	06-25-1998		
	005	WO	01/77081	A	EARLE, ET AL.	10-18-2001		
	006	WO	97/34875	A	HERRMANN, ET AL.	09-25-1997		

Examiner  
Signature

Date  
Considered

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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached. Number refers to English language corresponding family member.

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 2

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First Named Inventor	Katrin KOEHLER, et al.
Group Art Unit	unknown
Examiner Name	unknown
Attorney Docket Number	MERCK-3131

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	007	B. CETINKAYA ET AL: "SYNTHESIS AND IMMOBILIZATION OF N-HETEROCYCLIC CARBENE COMPLEXES OF RU(II): CATALYTIC ACTIVITY AND RECYCLABILITY FOR THE FURAN FORMATION" JOURNAL OF MOLECULAR CATALYSIS A, CHEMICAL, Bd. 184, Nr. 1-2, 2002, Pages 31-38, XP002303852	
	008	A.A. DANOPOULOS ET AL: "SYNTHESIS AND STRUCTURAL CHARACTERISATION OF STABLE PYRIDINE-AND PHOSPHINE-FUNCTIONALISED N-HETEROCYCLIC CARBENES" CHEMICAL COMMUNICATIONS, Nr. 5, 2002, Pages 482-483, XP002303853	
	009	S. SOLE ET AL: "APPARENT 1,2-SILYL MIGRATIONS IN AROMATIC CARBENES OCCUR BY INTERMOLECULAR SILYL EXCHANGES" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, Bd. 120, Nr. 35, 1998, PAGES 9100-9101, XP002303666	
	010	ARDUENGO A J ET AL: "IMIDAZOLYLIDENES, IMIDAZOLINYLIDENES AND IMIDAZOLIDINES" TETRAHEDRON, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, Bd. 55, Nr. 51, DECEMBER 17, 1999, PAGES 14523-14534, XP004185322, ISSN: 0040-4020	
	011	W.A. HERMANN ET AL: "HETEROCYCLIC CARBENES: A HIGH-YIELDING SYNTHESIS OF NOVEL, FUNCTIONALIZED N-HETEROCYCLIC CARBENES IN LIQUID AMMONIA" CHEMISTRY - A EUROPEAN JOURNAL, Bd. 2, Nr. 12, 1996, PAGES 1627-1636, XP002303664	
	012	C. BOLM ET AL: "THE FIRST PLANAR-CHIRAL STABLE CARBENE AND ITS METAL COMPLEXES" ORGANOMETALLICS, Bd. 21, Nr. 4, 2002, PAGES 707-710, XP002303854	
	013	D. BROGGINI ET AL: "SYNTHESIS AND STRUCTURE OF AN ENANTIOMERICALLY PURE C2 SYMMETRIC FERROCENYL CARBENE" HELVETICA CHIMICA ACTA, Bd. 85, Nr. 8, 2002, PAGES 2518-2522, XP002303855	
	014	A.A. DANOPOULOS ET AL: "C-H ACTIVATION WITH N-HETEROCYCLIC CARBENE COMPLEXES OF IRIIDIUM AND RHODIUM" JOURNAL OF THE CHEMICAL SOCIETY, DALTON TRANSACTIONS, Nr. 16, 2002, PAGES 3090-3091, XP002303856	
	015	A.J. ARDUENGO III ET AL: "ELECTRONIC STABILIZATION OF NUCLEOPHILIC CARBENES" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, Bd. 114, Nr. 14, 1992, PAGES 5530-5534, XP002303665	

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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